

In the claims:

1. (Previously presented) A seismic sensor, comprising a case; a pre-charged, non-conductive membrane located between two plates that form a capacitor and accommodated inside said case, with one of said plates being immovable relative to said case and the other of said plates being movable relative to said one plate under the action of seismic activity so that said capacitor produces an electrical signal responsive to the seismic activity of a medium in which the sensor is located; and a mass increasing element associated with said movable plate so as to increase mass of said movable plate and therefore to enhance oscillations of said movable plate under the action of the seismic activity, said mass increasing element being formed as a further case which surrounds said plates, is connected to said movable plate and is located in condition of equilibrium in an inoperative position of the sensor.

2. (Original) A seismic sensor as defined in claim 1, wherein said further case is located outside said first mentioned case.

3. (Currently amended) A seismic sensor as defined in claim 1; and further comprising means for maintaining said ~~outer~~further case in condition of equilibrium and including spring means.

4. (Original) A seismic sensor as defined in claim 3, wherein said spring means include two springs located above and below said first mentioned case and held in support means immovably connected with said further case.

5. (Original) A seismic sensor as defined in claim 1; and further comprising an electronic unit which is connected with said capacitor.

6. (Original) A seismic sensor as defined in claim 5, wherein said electronic unit including an operational amplifier with high impedance input and a resistance, and a capacitance.

7. (Original) A seismic sensor as defined in claim 1, wherein said case is formed as a double shield for protection from electromagnetic interference.

8. (Original) A seismic sensor as defined in claim 7, wherein said double shield includes one shield composed of copper and another shield composed of nickel.

9. (Previously presented) A seismic sensor as defined in claim 1; and further comprising a thin, elongated connecting element which connects said further case to said movable plate and is located in a center of said movable plate and said further case.